

Calculus Warm Up #5-3

Test for convergence. State the test(s) used and give a complete conclusion.

$$1) \sum_{n=1}^{\infty} \frac{3}{n\sqrt{n}}$$

$$2) \sum_{n=1}^{\infty} \frac{(-1)^n 3^{n-2}}{2^n}$$

HW Questions: p. 615

10.7 day 2

Accuracy of Approximations using Taylor or Maclaurin Polynomials

In general, the approximations will be better at x-values closer to c, than farther away.

In general, higher degree polynomials will yield more accurate results than lower degree.

The Remainder of a Taylor Polynomial

$$\begin{array}{ccccc} f(x) & = & P_n(x) & + & R_n(x) \\ \text{exact} & & \text{approx.} & & \text{remainder} \\ \text{value} & & \text{value} & & \end{array}$$

$$\text{error} = |R_n(x)| = |f(x) - P_n(x)|$$

$Y =$
 $Y =$
 $Y =$

} put each equation

2nd TBL Set

change Indpnt to Ask

Go to TABLE

	X	Y ₁	Y ₂	Y ₃
enter →				
→				
→				

HW: p. 615,

20, 21 - 27 odd, 31

Try MC-A, #10

MC-B, #86, 90

#20) $P_2(x) = -\pi^2 - 2\pi(x - \pi) + \frac{(\pi^2 - 2)(x - \pi)^2}{2}$

MC part B answers:

- | | | |
|-------|-------|-------|
| 76. B | 81. A | 86. E |
| 77. B | 82. C | 87. B |
| 78. D | 83. D | 88. C |
| 79. E | 84. C | 89. B |
| 80. B | 85. B | 90. D |
| | | 91. B |
| | | 92. C |

★ Still need to learn:

78, ~~86~~, 87, ~~90~~